

STUDIES IN THE EUPATORIEAE (ASTERACEAE). CXXVIII.

FOUR ADDITIONS TO THE GENUS AGERATINA FROM MEXICO AND  
CENTRAL AMERICA.

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Ageratina austin-smithii R.M.King & H.Robinson, sp. nov.

Plantae suffruticentes usque ad 2 m altae pauce ramosae. Caules teretes vel subhexagonales hirsuti. Folia opposita, petiolis plerumque 1.5-3.5 cm longis; laminae ovatae papyraceae usque ad 16 cm longae et 9 cm latae base cuneatae margine multo crenato-serratae apice argute acuminatae supra et subtus sparse puberulae subtus in nervis subhirtellae, nervis secundariis paucis subpinnatis mediis valde ascendentibus. Inflorescentiae corymboso-paniculatae, ramis corymbosis, pedicellis plerumque 3-6 mm longis dense hirtellis. Capitula ca. 6-7 mm alta; floribus ca. 23; squamae involucri ca. 15-18 eximbricatae biseriatae lineares 4-5 mm longae 0.5-0.7 mm latae bicostatae apice attenuatae pilosae margine distincte anguste scariosae extus dense puberulae vel hirtellae; corollae ca. 4.0 mm longae, tubis perangustatis 1.0-1.5 mm longis, limbis anguste campanulatis pauce setiferis, lobis anguste triangularibus 0.7-0.9 mm longis intus glabris extus dense setiferis, setis simplicibus; filamenta antherarum in parte superiore ca. 400 $\mu$  longa; thecae antherarum ca. 0.8 mm longae, appendicibus ca. 200 $\mu$  longis et 150 $\mu$  latis; styli inferne distincte nodulosi, appendicibus dense papillosis, ramis non vel indistincte glanduliferis; achaenia 1.5-2.0 mm longa in costis setifera; carpodia breviter cylindrica ca. 150 $\mu$  longa, cellulis anguste oblongis ca. 10 $\mu$  latis usque ad 75 $\mu$  longis; setae pappi ca. 25 fragiles ad apicem non dilatatae; series secundaria brevia. Grana pollinis ca. 23 $\mu$  diam.

Type: COSTA RICA: Alajuela: Palmira, 2400 meters, January 8, 1940. Austin Smith P2242 (Holotype US!).

The new species would key to A. badia (Klatt) K. & R. in the recent key to Costa Rican species (K. & R., 1972). The later species differs by the less acuminate leaf tips, the more pilose tips of the phyllaries and

by the lack of indurated glands on the inner surfaces of the style branches. The species does not have oil droplets in the leaves such as occur in the related A. barbensis K. & R.

Ageratina fosbergii R.M.King & H.Robinson, sp. nov.

Plantae suffrutescentes ca. 1 m altae pauce ramosae. Caules dense minute puberuli. Folia opposita, petiolis angustis plerumque 1-2 cm longis; laminae late ovatae vel deltoideae papyraceae plerumque 4-5 cm longae 2.0-3.5 cm latae base truncatae vel subcordatae valde trinervatae margine serratae apice argute anguste acuminatae supra et subtus subglabrae, nervis minute puberulis. Inflorescentiae corymboso-paniculatae, pedicellis plerumque 5-10 mm longis minute subtiliter puberulis. Capitula 4.5-5.5 mm alta; floribus ca. 25; squamae involucri ca. 15-17 eximbricatae biseriatae oblongae plerumque 2.5-3.0 mm longae 0.8-1.0 mm latae bicostatae apice obtusae margine late scariosae extus sparse minute puberulae; corollae albae 2.5-3.0 mm longae, tubis perangustatis 1.0-1.5 mm longis glabris, limbis cylindricis vel anguste campanulatis extus sparse setiformis, lobis anguste triangularibus ca. 0.5 mm longis intus glabris extus setiferis, setis simplicibus; filamenta antherarum in parte superiore ca. 250 $\mu$  longa; thecae antherarum ca. 0.6-0.8 mm longae, appendicibus ca. 200 $\mu$  longis et 150 $\mu$  latis; styli inferne distincte nodulosi, appendicibus dense papillois, ramis intus obscure pauce glanduliferis; achaenia ca. 1.5 mm longa fusiformia profuse setifera; carpodia breviter stipitata, breviter cylindrica ca. 100 $\mu$  longa, cellulis oblongis ca. 12 $\mu$  latis usque ad 25 $\mu$  longis; setae pappi ca. 25 fragiles ad apicem aliquantum dilatatae, series secundaria subnulla. Grana pollinis ca. 25 $\mu$  diam.

Type: GUATEMALA: Concepcion Pinola, headwaters of Rio Pinola, 4 km ESE San Jose Pinola, 20 km ESE Guatemala City, 1700 meters, April 13, 1947, F. R. Fosberg 27263 (Holotype US!).

Ageratina fosbergii is distinctive in the rather deltoid strongly trinervate strongly acuminate leaves which are more like some species in the genera Koanophyllon or Chromolaena.

Ageratina hintonii R. M. King & H. Robinson, sp. nov.

Plantae herbaceae vel suffrutescentes usque ad 4 dm altae inferne ramosae. Caules teretes rubescentes parce pilosi. Folia opposita breviter petiolata, petiolis 1-3 mm longis, laminis lineari-lanceolatis 18-45 mm longis 3-6 mm latis margine subintegris ad apicem anguste obtuse acutis base cuneatis fere ad basem trinervatis supra glabris subtus parce puberulis. Inflorescentiae terminales corymbosae, pedicellis 4-9 mm longis flavis glabris. Capitula 6-7 mm alta ca. 5 mm lata; floribus ca. 35; squamae involucri 17-20 subimbricatae chartaceae 2-3-seriatae subaequilongae 2-4 mm longae 1.0-1.5 mm latae oblongae ad apicem late rotundatae extus glabrae; corollae albae ca. 5 mm longae inferne anguste tubulares, tubis ca. 2 mm longis glabris, lobis ca. 1.2 mm longis anguste triangularibus extus setiferis; thecae antherarum ca. 1.1 mm longae, appendices ovatis 250 $\mu$  longis; achaenia fusiformia ca. 2 mm longa in costis dense breviter setifera; carpopodia cylindrica, cellulis oblongis ca. 15 $\mu$  latis 15-40 $\mu$  longis; setae pappi ca. 25 base subfragiles ad apicem distincte clavatae leniter scabrae, series secundaria subnulla. Grana pollinis ca. 25 $\mu$  diam.

Type: MEXICO: Guerrero: Galeana District: Teotepec, 3300 meters, December 25, 1937, George B. Hinton 11123 (Holotype US!).

The new species is similar to A. amblyolepis (B.L.R.) K. & R. in the narrow leaves and in the broad subimbricate phyllaries. The latter species is distinct in the leaves not being as narrow or as entire, in the pedicels and the phyllaries being glabrous and in the tips of the pappus setae being more hispid.

Ageratina whitei R. M. King & H. Robinson, sp. nov.

Plantae frutescentes usque ad 1.7 m altae multo ramosae. Caules teretes vel subhexagonales sparse minute puberuli. Folia opposita, petiolis 3-7 mm longis; laminae anguste ovatae subcoriaceae plerumque 3-5 cm longae et 1.0-2.5 cm latae base cuneatae vel leniter acuminatae margine multo crenato-serratae apice leniter argute acuminatae supra et subtus sparse minute puberulae, nervis densius puberulis secundariis paucis pinnatis valde ascendentibus. Inflorescentiae laxae late corymboso-paniculatae, ramis dense corymbosis, pedicellis 1-6 mm longis appresse puberulis. Capitula ca. 5 mm alta; floribus 25-29; squamae involucri ca. 20

eximbricatae vel parum subimbricatae ca. 3-seriatae lanceolatae vel lineares 1.5-4.0 mm longae 0.5-0.7 mm latae bicostatae argute acutae superne non scariosae extus sparse appresse puberulae; corollae roseae 3.5-4.0 mm longae, tubis perangustatis 1.0-1.5 mm longis, limbis anguste campanulatis extus pauca setiferis, lobis anguste triangularibus 0.6-0.7 mm longis intus glabris extus dense setiferis, setis simplicibus; filamenta antherarum in parte superiore ca. 400 $\mu$  longa; thecae antherarum ca. 0.8 mm longae, appendicibus 1 $\frac{1}{2}$  longioribus quam latioribus; styli inferne leniter nodulosi, appendicibus longe dense papillosis; achaenia ca. 1 mm longa in costis breviter setifera non glandulifera; carpodia cylindrica ca. 0.2-0.3 mm longa, cellulis anguste oblongis ca. 12 $\mu$  latis usque ad 80 $\mu$  longis; setae pappi ca. 25 fragiles ad apicem non dilatatae, series secundaria nulla. Grana pollinis ca. 23 $\mu$  diam.

Type: PANAMA: Chiriqui: Valley of the upper Rio Chiriqui Viejo, January 20, 1938, White & White 118 (Holotype MO!).

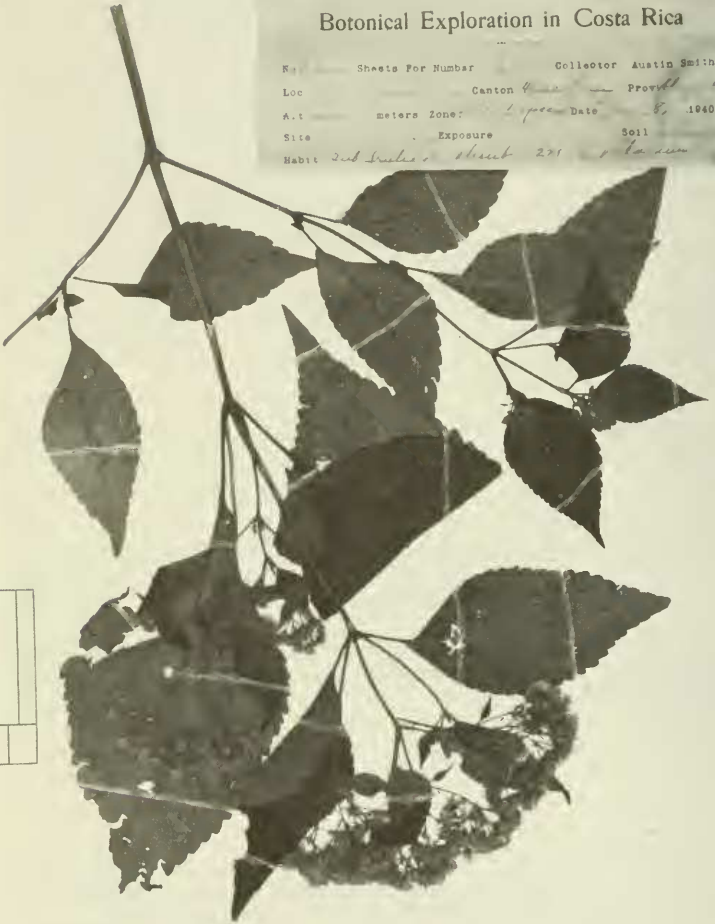
#### Acknowledgement

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*Ageratina ixioclados* (Benth. ex DC.) R. M. King & H. Robinson  
Det. H. Robinson, II-1971

Botanical Exploration in Costa Rica

No.	Sheets For Number	Collector	Austin Smith
Loc		Canton	Provincia
Alt	meters	Zone	Date 8, 1960
Site		Exposure	Soil
Habit	Sub-tropical forest 271		

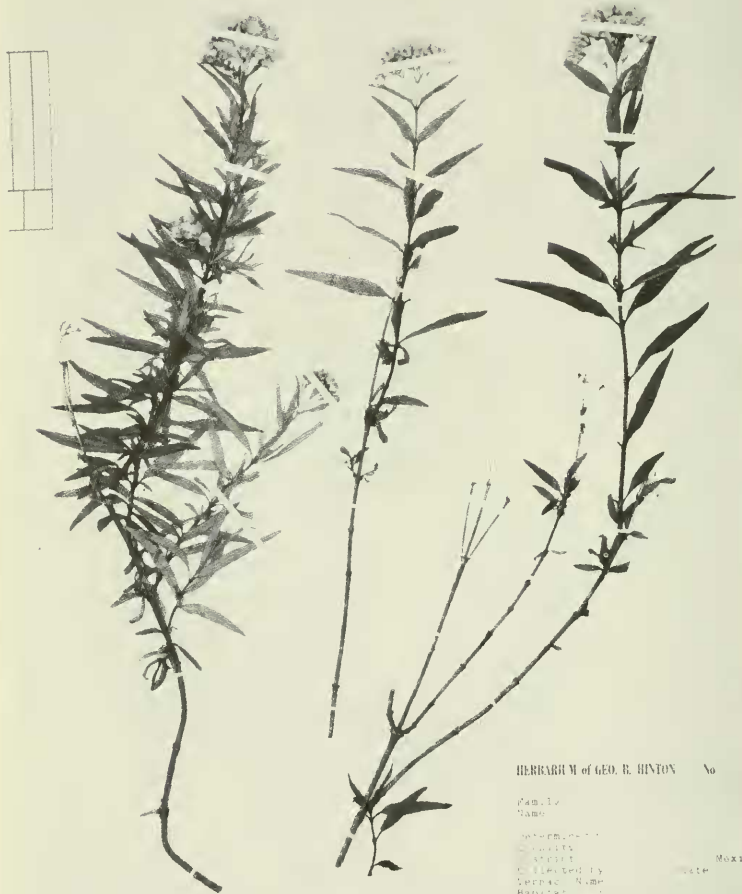


*Ageratina austin-smithii* R.M.King & H.Robinson,  
Holotype, United State National Herbarium. Photos by  
Victor E. Krantz, Staff Photographer, National Museum  
of Natural History.



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*Ageratina fosbergii* R.M.King & H.Robinson, Holotype,  
United States National Herbarium.



HERBARIUM OF GEO. R. HINTON No. \_\_\_\_\_  
 Family \_\_\_\_\_  
 Name \_\_\_\_\_  
 Author \_\_\_\_\_  
 Date \_\_\_\_\_  
 Collected by \_\_\_\_\_  
 Locality Name \_\_\_\_\_  
 Habitat \_\_\_\_\_  
 Description \_\_\_\_\_  
 Uses \_\_\_\_\_

*Ageratina hintonii* R.M.King & H.Robinson, Holotype, United States National Herbarium.



Ageratina whitei R.M.King & H.Robinson, Holotype,  
Missouri Botanical Garden.





Enlargements of heads of Ageratina. Upper left; A. austin-smithii. Upper right; A. fosbergii. Lower left; A. hintonii. Lower right; A. whitei.